

CLAIMS:

1. An implantable component of a cochlear implant system, the implantable component comprising:
 - 5 a housing for a stimulator unit, the stimulator unit being adapted to output one or more stimulation signals;
 - a receiver antenna being part of a transcutaneous radio frequency link; and
 - an electrode assembly adapted to apply electrical stimulation in accordance with the output of the stimulator unit;
- 10 wherein following implantation of the electrode assembly within the cochlea, the housing and/or receiver antenna can be moved from a first implanted position to at least one second implanted position without removal of the electrode assembly from the cochlea of the recipient.
- 15 2. An implantable component of a cochlear implant system, the implantable component comprising:
 - a housing for a stimulator unit, the stimulator unit being adapted to output one or more stimulation signals;
 - a receiver antenna being part of a transcutaneous radio frequency link; and
 - 20 an electrode assembly that extends from said housing and is adapted to apply electrical stimulation in accordance with the output of the stimulator unit;
 - wherein the housing has a lateral axis and is adjustable about said axis despite implantation of said electrode assembly.
- 25 3. The implantable component of claim 2 wherein the housing is rotatable about said axis without leading to an adjustment of the position of implantation of the electrode assembly.
4. The implantable component of claim 1 or claim 2 wherein the housing has a
30 longitudinal axis and wherein the electrode assembly extends from a side of the housing through which the longitudinal axis does not pass.
5. The implantable component of claim 1 or claim 4 wherein the housing has at
35 lower edge of the housing.

6. The implantable component of claim 1 or 2 wherein the implantable component further comprises a second electrode assembly.
7. The implantable component of claim 6 wherein the second electrode assembly
5 has one or more electrodes thereon and is adapted to be implantable external of the internal passages of the cochlea.
8. The implantable component of claim 6 or claim 7 wherein the second electrode
10 assembly extends from the housing, once implanted, at least initially in an upward orientation from the upper edge of the housing.
9. The implantable component of claim 1 or claim 2 wherein the housing is
implantable in a recess of the temporal bone adjacent the ear of the recipient that is
receiving the output of the implant system.
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10. The implantable component of claim 1 or claim 2 wherein the receiver antenna
comprises a receiver coil.
11. The implantable component of claim 10 wherein the receiver coil has a
20 maximum thickness that is less than the maximum thickness of the housing.
12. The implantable component of claim 10 wherein the receiver coil of the
implantable component is part of a radio frequency (RF) link to allow transcutaneous
bidirectional data transfer between the implantable component and an external
25 component of the system, the link further comprising an external antenna that is
alignable with the position of the implantable receiver antenna.
13. The implantable component of claim 12 wherein the radio frequency link also
provides a means of powering the internal component.
30
14. The implantable component of claim 10 wherein the receiver coil is disposed
about a magnet that serves to hold and align an external coil mounted to the outside of
the head of the recipient with the receiver coil
- 35 15. The implantable component of claim 10 wherein the receiver coil is resiliently
deformable relative to the housing.

16. The implantable component of claim 1 or claim 2 wherein the housing is formed at least in part from a resiliently flexible material.
- 5 17. The implantable component of claim 16 wherein a region adjacent one or both ends or one or both of the upper and lower edges of the housing are resiliently deformable so as to facilitate a change in orientation of the housing in a surgical environment and despite the electrode assembly remaining in its originally implanted positions.
- 10 18. A method of adjusting the implanted position of a housing of an implantable component of a cochlear implant system, the method comprising the steps of:
- accessing the site of implantation;
 - 15 repositioning the housing or rotating the housing about a lateral axis of the housing; and
 - closing the implantation site.
19. The method of claim 18 wherein the implantable component is as defined in
20 claims 1 or 2.
20. The method of claim 19 wherein on initial implantation, the implantable component is removably implantable within a recess in the mastoid bone of the recipient.
- 25 21. The method of claim 20 wherein the implantable component is held in place using one or more fastening devices that hold the component to the mastoid bone.
22. An external component of a cochlear implant system, the external component
30 comprising:
- a support for mounting to the ear of an recipient; and
 - an external signal transmitter antenna;
 - wherein the signal transmitter antenna is movably mounted to at least a portion
of the support.
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23. The external component of claim 22 wherein the external transmitter antenna comprises a transmitter coil that is adapted to provide in combination with an implanted receiver coil a transcutaneous radio frequency (RF) link between the external component of the cochlear implant system and an implanted component thereof.
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24. The external component of claim 22 or claim 23 wherein the implanted component is as defined in claim 1 or claim 2.
25. The external component of claim 22 wherein the support comprises a housing
10 having an ear hook member, the ear hook member extending forwardly from the housing and adapted, when used, to sit over the outer ear of the recipient.
26. The external component of claim 22 wherein the external transmitter antenna is movably mounted to the housing of the support.
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27. The external component of claim 26 wherein the transmitter antenna is mounted to a bracket that is slidably mounted to the housing.
28. The external component of claim 25 wherein the housing of the external
20 component is relatively movably mounted to the ear hook member.
29. The external component of claim 26 wherein the external transmitter antenna is mounted to an arm extending outwardly from the housing, the arm having a first non-movable portion extending rearwardly from the housing and a second movable portion
25 adapted to articulate through a joint with the first portion.
30. The external component of claim 29 wherein the external transmitter antenna is supported at a distal end of the second portion of the arm.
- 30 31. The external component of claim 29 wherein the joint is a universal joint.
32. The implantable component of claim 1 or claim 2 wherein the component is implantable with either a first face or a second face adjacent or nearest the skin of the recipient without there being any significant or indeed no change in the operation of the
35 component.

33. The implantable component of claim 32 wherein the implantable component is at least substantially symmetrical about a longitudinal plane.
34. The implantable component of claim 32 or claim 33 wherein the implantable
5 component is at least substantially symmetrical about a lateral plane.
35. An implantable component of a cochlear implant system, the implantable component comprising:
a housing for a stimulator unit, the stimulator unit being adapted to output one or
10 more stimulation signals;
a receiver antenna being part of a transcutaneous radio frequency link; and
an electrode assembly adapted to apply electrical stimulation in accordance with the output of the stimulator unit;
wherein the housing has a longitudinal plane and is at least substantially
15 symmetrical about said plane.
36. The implantable component of claim 35 wherein the housing also has a lateral plane and is at least substantially symmetrical about this lateral plane.
- 20 37. An implantable component of a cochlear implant system, the implantable component comprising:
a housing for a stimulator unit, the stimulator unit being adapted to output one or more stimulation signals;
a receiver antenna being part of a transcutaneous radio frequency link; and
25 an electrode assembly adapted to apply electrical stimulation in accordance with the output of the stimulator unit;
wherein the housing has a lateral plane and is at least substantially symmetrical about said plane.
- 30 38. A cochlear implant system capable of operating in both a magnet and a magnetless manner and comprising:
an implantable stimulator unit that is implantable in a first and at least a second orientation in the head of the recipient;
an external controller unit capable of being worn behind the ear of the recipient;
35 and

a transmission system capable of transmitting signals from the external controller unit to the implantable stimulator unit;

wherein when said implantable stimulator unit is implanted in a first orientation said transmission system is positioned distal from said external controller unit being
5 worn behind the outer ear of the recipient; and

wherein when the implantable stimulator unit is in said second orientation, said transmission system is positioned proximal or integral with said external controller being worn behind the outer ear of the recipient.